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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,999	07/08/2003	Yoshinori Yamamoto	50212-511	6259
20277	7590	05/17/2005	EXAMINER	
MCDERMOTT WILL & EMERY LLP			ROJAS, OMAR R	
600 13TH STREET, N.W.			ART UNIT	
WASHINGTON, DC 20005-3096			PAPER NUMBER	

2874

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

877

Office Action Summary

Application No.

10/613,999

Applicant(s)

YAMAMOTO ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 8, 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0703&1204.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copies of Japanese applications P2002-192409 and 2002-337010 have been filed in parent Application No. 10/347,417, filed on January 21, 2003.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The prior art documents submitted by applicant in the Information Disclosure Statement(s) filed on July 8, 2003 and December 22, 2004 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Drawings

4. The drawings are objected to because the word "bending" is misspelled in Figure 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 7, 14, 21, 28, and 33 are objected to because of the following informalities: Claims 7, 14, 21, 28, and 33 each recite the limitation "said cladding part." This limitation is considered ambiguous because it does not precisely specify which cladding part is referred to in the base claim (i.e., the first cladding, the second cladding, or the third cladding). Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 1063542 A1 to Sumitomo Electric Industries (hereinafter “Sumitomo I”), provided by applicant(s) in an Information Disclosure Statement.

Regarding claim 1, Sumitomo I discloses a dispersion compensator, comprising: an optical fiber component having an accumulated chromatic dispersion of -1000 ps/nm at a wavelength of 1.55 μm (see column 4, line 9-13 and column 7, lines 31-35); and a housing **80** having a minimum possible volume of $18\text{mm} \times 210\text{mm} \times 130\text{mm} = 491400 \text{ mm}^3 = 491.4 \text{ cm}^3$ for accommodating 10km of said optical component (see column 6, lines 8-16 and column 7, lines 30-41). Although Sumitomo I does not expressly recite the volume of housing **80**, the dimensions indicated by Sumitomo I suggest a volume of less than 500 cm^3 as mentioned above. Alternatively, it would be obvious to modify the housing **80** to have a volume less than 500 cm^3 since providing a smaller housing would save valuable space.

Regarding claim 3, see the previous remarks and column 4, lines 9-14 of Sumitomo I.

Regarding claim 4, the 10 km of dispersion compensating fiber (“DCF”) disclosed by Sumitomo I satisfy the relationship of claim 4 with “IL” being equal to 4 dB and “AD” being equal to 1000 ps/nm. See Sumitomo I at column 4, lines 1-12.

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10. Claims 8, 10, 11, 15, 17, 18, 22, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumitomo I as applied to claims 1, 3, and 4 above.

Regarding claims 8, 10, 11, 15, 17, 18, 22, 24, and 25, the previous remarks concerning Sumitomo I are incorporated herein.

Sumitomo I differs from claims 8, 10, 11, 15, 17, 18, 22, 24, and 25 in that Sumitomo I does not expressly disclose the claimed accumulated dispersion (“AD”), insertion loss (“IL”), and housing volume(s) recited by claims 8, 10, 15, 22, and 24.

It is first noted that less than 1 km of the dispersion compensating fiber (“DCF”) disclosed by Sumitomo will satisfy all the claimed AD values of claims 8, 10, 15, 22, and 24. This is because 1 km of the DCF disclosed by Sumitomo will have an AD equal to -100 ps/nm (1 km multiplied by -100/ps/nm/km equals -100 ps/nm). See Sumitomo at column 4, lines 9-14. It is further noted that 1 km of the DCF disclosed by Sumitomo will also have only 0.40 dB transmission loss (i.e., insertion loss), thereby satisfying claims 10, 11, 17, 18, 24, and 25. See Sumitomo at column 4, lines 9-14.

Because 1 km is ten times less than the 10 km expressly taught by Sumitomo (see column 6, lines 8-16), the volume of the housing 80 required to store the DCF can be made correspondingly smaller (i.e., 200 cm³ or less).

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The ordinary skilled artisan would have been motivated to select a smaller housing in Sumitomo in order to better accommodate a smaller length of DCF (i.e., in order to compensate for dispersion in a shorter length of single-mode optical fiber). See column 1, lines 11-18.

Therefore, the limitations of claims 8, 10, 11, 15, 17, 18, 22, 24, and 25 are considered obvious in view of Sumitomo.

11. Claims 2, 5, 6, 9, 12, 13, 16, 19, 20, 23, 26, 27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumitomo I as applied to claims 1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, and 25 above, and further in view of EP 1130428 A1 (hereinafter “Sumitomo II”), provided by applicant(s).

Regarding claims 2, 5, 6, 9, 12, 13, 16, 19, 20, 23, 26, 27, and 29-32, the previous remarks concerning Sumitomo I are incorporated herein. As mentioned above, Sumitomo I teaches providing a certain length of dispersion compensating fiber (“DCF”) within a housing having a given volume.

Sumitomo I further differs from claims 5, 6, 12, 13, 19, 20, 26, and 27 in that Sumitomo I does not teach a DCF having the triple cladding structure and bending loss recited by these claims.

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However, the Sumitomo II reference teaches a DCF having the same triple cladding structure (see Figures 1A-1B) and the same bending loss as recited by claims 5, 6, 12, 13, 19, 20, 26, and 27. See Sumitomo II at paragraph [0048]-[0049].

The motivation for combining both references is given by Sumitomo II in paragraph [0073]:

“[a]s a result, when the dispersion compensating fiber is wound like a coil so as to construct a module, the latter can be made smaller.” In other words, the DCF disclosed by Sumitomo II can be used in applications requiring smaller housing modules.

Therefore, the limitations of claims 5, 6, 12, 13, 19, 20, 26, and 27 are considered obvious in view of the Sumitomo I combined with Sumitomo II.

Regarding claims 2, 9, 16, 23, and 29-32, when the DCF of Sumitomo II is combined with a housing structure similar to that disclosed by Sumitomo I, the relationship between the accumulated chromatic dispersion (“AD”) and the volume of the housing would inherently satisfy the mathematical relationship recited by claims 2, 9, 16, 23, and 29. This is because the claimed mathematical relationship is based upon using a DCF having characteristics identical to the DCF disclosed by Sumitomo II.

Therefore, claims 2, 9, 16, 23, and 29-32 are also considered obvious in view of Sumitomo I combined with Sumitomo II.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. **Claims 1, 5-8, 12-15, 19-22, and 26-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10, 20, 30, 40, and 48-50 of copending Application No. 10/347,147 (hereinafter "the '147 application").** Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 10, 20, 30, 40, and 48-50 of the '147 application anticipate claims 1, 5-8, 12-15, 19-22, and 26-28 of the instant application. Anticipation is the epitome of obviousness.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

14. Claims 7, 14, 21, 28, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if the double patenting rejection is overcome.

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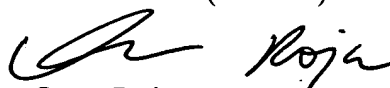
15. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 7, 14, 21, 28, and 33, the primary reason for allowance of the claims is the inclusion of a second cladding part having a relative refractive index difference of 0.2% to 0.9% with respect to the third cladding. This feature is simply not taught or suggested by either Sumitomo reference cited above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (703) 872-9306. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Omar Rojas
Patent Examiner
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or

May 14, 2005